

Claims

1 A network unit which includes

5 a look-up engine for performing an address look-up in response to a key including a network address pair in a packet to obtain forwarding data for said packet,

means for monitoring conversations defined by network address pairs in packets received by the unit to obtain measures of traffic flow for said conversations;

10 a cache memory for storing entries accessible by network address pairs and enabling forwarding data to be obtained for entries in the cache, and

a cache controller operative

15 (i) to cause in response to a look-up request a determination whether the address pair in a packet is held in the cache ,

(ii) to allow the look-up engine to perform the address look-up when the address pair in said packet is not held in the cache, and

20 (iii) to update said cache so as to displace entries associated with relatively low measures of traffic flow by entries associated with relatively high measures of traffic flow.

25 2 A network unit according to claim 1 wherein the cache controller is operative, when the address pair of the packet is not held in the cache, to compare the measure of traffic flow with a threshold and to insert the address pair as a new entry in the cache if the measure exceeds the threshold and is operative when the address pair of the packet is held in the cache to determine whether the said measure exceeds said threshold and thereupon to increase said threshold

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3. A network unit according to claim 2 wherein the cache controller is operative to remove the entry associated with the least measure of traffic flow when inserting said new entry.

4 A network unit according to claim 1 wherein said look-up engine is organised to perform a trie search

5 A network unit which includes

10 a look-up engine for performing an address look-up in response to a key including a network address pair in a packet to obtain forwarding data for said packet,

means for monitoring conversations defined by network address pairs in packets received by the unit to obtain measures of traffic flow for said conversations,

15 a cache memory for storing entries accessible by network address pairs and enabling forwarding data to be obtained for entries in the cache, and

a cache controller operative:

20 (i) to cause in response to a look-up request a determination whether the address pair in a packet is held in the cache,

(ii) to allow the look-up engine to perform the address look-up when the address pair in said packet is not held in the cache,

25 (iii) when the address pair of the packet is not held in the cache, to compare the measure of traffic flow with a threshold and to insert the address pair as a new entry in the cache if the measure exceeds the threshold; and

30 (iv) when the address pair of the packet is held in the cache, to determine whether the said measure exceeds said threshold and thereupon to increase said threshold

6 A network unit according to claim 5 wherein the cache controller is operative to remove the entry associated with the least measure of traffic flow when inserting said new entry

7 A network unit according to claim 5 wherein said look-up engine is organised to perform a
5 trie search

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